

IN THE CLAIMS:

Kindly replace the claims of record with the following full set of claims:

1. (Currently amended) An image processing device, comprising:

an input which receives a stereo pair of images;

a foreground extractor coupled to the input which compares location of like pixel information in each image to determine which pixel information is foreground pixel information and which pixel information is background pixel information,

a DCT block classifier coupled to the foreground extractor which determines which DCT blocks of at least one of the images contain a threshold amount of foreground information, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks and wherein a threshold is provided to determine whether an 8 X 8 DCT block is a foreground block or a background block[.]; and

an encoder coupled to the DCT block classifier which encodes the DCT blocks having the threshold amount of foreground information with a first high level of quantization and which encodes the DCT blocks having less than the threshold amount of foreground information at a second lower quantization level relative to said first high level of quantization, wherein at least a majority of a bandwidth is encoded at the first high quantization level, and said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization that are encoded,

wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

2. (Original) The image processing device as claimed in claim 1, wherein the stereo pair of images are received from a stereo pair of cameras spaced closely from one another in a video conference system.

3. (Original) The image processing device as claimed in claim 1, wherein the foreground extractor computes the difference in location of like pixels in each image and selects the foreground pixels as those pixels whose difference in location falls above a threshold distance.

4. (Previously presented) An image processing device, comprising:

an input which receives a stereo pair of images;

a foreground extractor which detects and indicates foreground pixel information from the stereo pair of images,

a DCT block classifier receiving the indication of foreground pixel information representing a contour of a participant whose image is at least part of the stereo pair of images by a plurality of 8 X 8 DCT blocks and wherein a threshold is provided to determine whether an 8 X 8 DCT block is to be encoded as a foreground block; and

an encoder which encodes the foreground block at a first high level of quantization and which encodes remaining blocks at a second lower level of quantization relative to said first high level of quantization, wherein at least a majority of a bandwidth is encoded at the first high level of quantization,

wherein said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization that are encoded, and wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

5. (Original) The image processing device as claimed in claim 4, wherein the foreground extractor computes the difference in location of like pixels in each image and selects the foreground pixels as those pixels whose difference in location falls above a threshold distance.

6. (Cancelled)

7. (Currently amended) An image processing system, comprising:

a stereo pair of cameras for taking a stereo pair of images;

a foreground extractor which detects foreground pixel information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8 X 8 DCT blocks, and wherein a threshold is

provided to determine whether an 8 X 8 DCT block is to be indicated to be encoded at a first high level of quantization or indicated to be encoded at a second lower level of quantization; and

an encoder coupled to the foreground extractor which encodes the [[the]] DCT blocks at a first high level of quantization or at a second lower level of quantization relative to said first high level of quantization as indicated; wherein at least a majority of a bandwidth is encoded at the first high quantization level, and wherein said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization that are encoded, and wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

8. (Previously presented) A method of encoding a stereo pair of images, comprising the steps of:

receiving the stereo pair of images;

extracting foreground information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is ~~not~~ represented by a plurality of 8 X 8 DCT blocks and wherein a threshold is provided to indicate whether a 8X 8 DCT block is to be encoded at a first high level of quantization or a second lower level of quantization; and

encoding the DCT blocks at a first high quantization level or at a second lower quantization level relative to said first high level of quantization, as indicated, wherein at

least a majority of a bandwidth is encoded at the first high quantization level, wherein said encoding step includes providing bit stream information for decoding of both the high level of quantization and lower level of quantization, and

wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

9. (Original) The method in accordance with claim 8, wherein the step of extracting includes the following steps:

identifying the locations of like pixels in each of the stereo pair of images;

calculating the difference between the locations of like pixels; and

determining for each set of like pixels whether the difference between locations falls above a threshold difference, and if so identifying those pixels as foreground information.

10. (Currently amended) The method in accordance with claim 8, wherein the encoding step encodes an entire 8 X 8 block of DCT coefficients at the first higher level of quantization if at least a predetermined number of foreground pixels are within the 8 X 8 block, otherwise the entire 8 X 8 block of DCT coefficients is encoded at the second lower level.

11. (Previously amended) A computer program to process image data from a stereo pair of images, the computer program being stored on a computer-readable medium and comprising instructions to cause computer processor, when loaded with said instructions, to execute the steps of:

a foreground extracting step to detect foreground pixel information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8×8 DCT blocks, and wherein threshold is used to indicate whether an 8×8 block is a foreground block or a background block and

an encoding step for encoding a foreground block of at least one image at a first high quantization level and for encoding a background block of the at least one image at a second lower quantization level relative to said first high level of quantization, wherein said encoding step provides bit stream information for decoding of both the high level of quantization and lower level of quantization;

wherein at least a majority of a bandwidth is encoded at the first high quantization level, and

wherein an encoding rate of the second lower level of quantization is not varied to accommodate an encoding rate of the first high level.

12. (Previously presented) The computer program as claimed in claim 11, wherein the foreground extracting step determines which 8×8 DCT blocks contain at least a predetermined amount of foreground pixel information; and wherein the

encoding step encodes an entire 8×8 block of DCT coefficients at the first high quantization level if the 8×8 block of DCT coefficients contains the predetermined amount of foreground pixel information.

13. (Currently amended) The computer program as claimed in claim 11, wherein the step of foreground extracting computes the difference in location of like pixels in each image and selects the foreground pixels as those pixels whose difference in location falls above a threshold distance.

14. (Currently amended) An apparatus for processing a stereo pair of images, the apparatus comprising:

a memory which stores process steps; and

a processor which executes the process steps stored in the memory so as (i) to extract foreground information from the stereo pair of images, wherein a contour of a participant whose image is at least part of the stereo pair of images is not represented by a precise number of pixels but rather said contour is defined by a plurality of 8×8 DCT blocks and wherein a threshold is provided to indicate whether an 8×8 DCT block is to be encoded at [[the]] a first high level of quantization or [[the]] a second lower level of quantization, and (ii) to encode [[the]] a DCT block at a first high level of quantization or at a second lower level of quantization, as indicated, wherein at least a majority of a bandwidth is encoded at the first quantization level, and said encoder provides bit stream information for decoding of both the high level of quantization and lower level of quantization and

wherein an encoding rate of the second lower level of quantization $[[to]]$ is not varied accommodate an encoding rate of the first high level.

15. (Previously presented) An apparatus for processing a stereo pair of images, the apparatus comprising:

a memory which stores process steps; and

a processor which executes the process steps stored in the memory so as

(i) to extract foreground information from the stereo pair of images in the form of foreground 8×8 DCT blocks of coefficients, wherein a threshold is provided to determine whether a block is to be encoded as a foreground 8×8 DCT block and

(ii) to encode the foreground 8×8 DCT blocks of coefficients at a first high level of quantization and to encode remaining 8×8 DCT blocks of coefficients at a second lower level of quantization;

16. (Cancelled).